

Missouri Department of Natural Resources

Total Maximum Daily Load Information Sheet

Gravois Creek

Water Body Segment at a Glance:

Counties: St. Louis and St. Louis City
Nearby Cities: St. Louis
Water Body ID: 1712 (2.3 miles)
1713 (6 miles)
Watershed Size: 22.5 square miles
Pollutants: Bacteria
Chloride
Source: Urban runoff/Storm sewers



State Map Showing Location of Watershed

Scheduled for TMDL development: 2015 for bacteria, 2017 for chloride

Description of the Problem

Designated Beneficial uses of Gravois Creek

- Livestock and Wildlife Watering
- Protection of Warm Water Aquatic Life
- Protection of Human Health (Fish Consumption)
- Whole Body Contact Recreation – Category B

Uses that are impaired

- Protection of Warm Water Aquatic Life (chloride impairment)
- Whole Body Contact Recreation – Category B (bacteria impairment)

Standards that apply

- Missouri's Water Quality Standards at 10 CSR 20-7.031(4)(C) state that the *E.coli* bacteria count shall not exceed 126 colonies per 100 milliliters of water (126 col/100 mL) for Category A and 206 col/100 mL for Category B. This count is the geometric mean during the recreational season (April 1- October 31) in waters designated for whole body contact recreation.
- Numeric criteria for chloride are found in 10 CSR 20-7.031 Table A and are dependent upon water hardness and sulfate concentrations. However, the assessment of Gravois Creek as impaired by chloride predates this current criteria and is based on the state's former chloride criterion of 230 milligrams per liter (mg/L). An assessment based on the new hardness dependent criteria has not yet been completed.

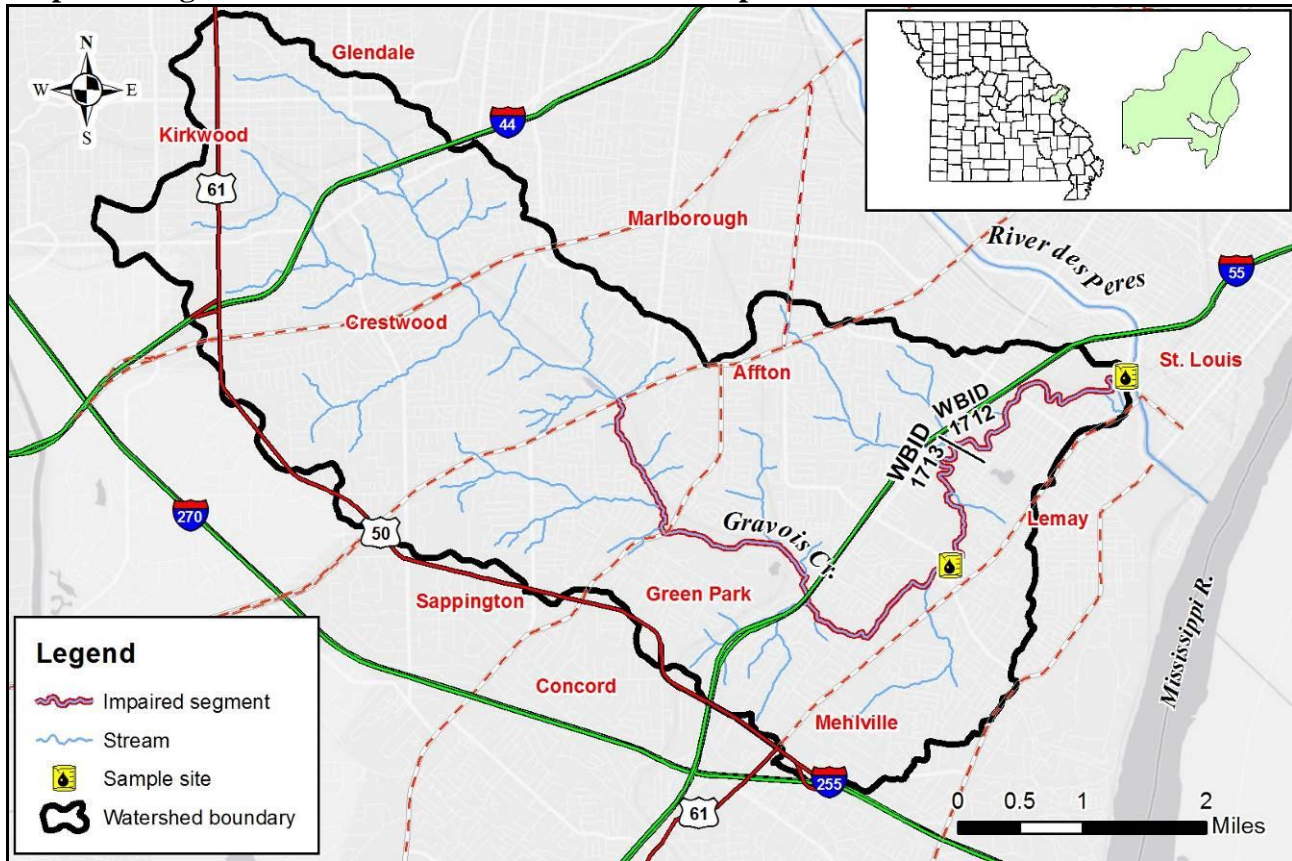
Background information and water quality data

Gravois Creek is a tributary to River des Peres in St. Louis. Data collected by the Metropolitan St. Louis Sewer District and the U.S. Geological Survey, or USGS, show exceedances of the state's former chronic chloride criterion. The listing methodology used to assess Gravois Creek allows a water body to be judged as impaired by toxics, such as chloride, if a criterion is exceeded more than once in the last three years of data when the stream is at stable flow conditions. For water body segment 1712 of Gravois Creek, three exceedances were observed. For water body segment 1713 of Gravois Creek, only two measurements were collected under stable flow conditions. Both of these measurements exceeded the chloride criterion.

Gravois Creek is also listed as impaired by *E. coli* bacteria. High counts of *E. coli* are an indication of fecal contamination and an increased risk of pathogen-induced illness to humans. *E. coli* are bacteria found in the intestines of warm-blooded animals and are used as indicators of the risk of waterborne disease from pathogenic (disease causing) bacteria or viruses. Missouri's whole body contact bacteria criteria are based on specific levels of risk of acute gastrointestinal illness. The level of risk correlating to the category B criterion is no more than 10 illnesses per 1,000 swimmers in fresh water (1 percent).

The department judges a stream to be impaired by bacteria if the water quality criterion for *E. coli* is exceeded in any of the last three years for which there is adequate data (minimum of five samples taken during the recreational season). Gravois Creek was listed as impaired prior to the existing listing methodology and, when first listed, did not have five or more bacteria samples available for each recreational season. However, due to the lack of any new data, the department could not demonstrate good cause for delisting and the impairment was carried over to subsequent 303(d) lists. In 2012, after the approval of the 2012 303(d) List, a data entry error was discovered showing that five samples were collected during the 2009 recreational season and the geometric mean of these bacteria measurements is below the whole body contact category B criterion. For this reason, the department will collect additional bacteria data from Gravois Creek and will reassess the bacteria impairment for the 2014 303(d) listing cycle.

Map Showing the Gravois Creek Watershed and Sample Site



Note:

The final Gravois Creek TMDL will be based on the most current and available data and information.

For more information call or write:

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